

IN THE CLAIMS:

Claim 1 (withdrawn) A method for controlling the dissolved gas content of an aqueous liquid containing a dissolved gas, comprising

(a) providing a microporous hydrophobic hollow fibre membrane, to provide at equilibrium a stable interface between an aqueous liquid phase containing dissolved gas on one side of the membrane and a gaseous phase on the other side of the membrane,

(b) controlling the aqueous phase and gaseous phase pressures, such that in operation the gaseous phase pressure is up to but not exceeding the aqueous phase pressure, and

(c) flowing the gaseous and liquid phases across the membrane, to provide simultaneous mass transfer through the membrane of a first gas in the gaseous phase into the liquid phase and of a second gas dissolved in the aqueous liquid into the gaseous phase, to provide simultaneous mass transfer through the membrane of a first gas in the gaseous phase into the liquid phase, and of a second gas dissolved in the aqueous liquid into the gaseous phase, whereby the gas content of the first gas in the aqueous phase is increased, the gas content of the second gas in the gaseous phase is decreased and the total dissolved gas pressure(TG) of the aqueous phase is altered.

Claim 2 (withdrawn) The method of claim 1, wherein step (c) the gaseous and liquid phases are flowed in substantially countercurrent manner.

Claim 3 (withdrawn) The method of claim 2, wherein the total dissolved gas pressure(TG), is decreased.

Claim 4 (withdrawn) The method of claim 3, wherein G is the flow rate of the first gas in g/time unit, and L is the flow rate of the aqueous phase in l/time unit, and wherein the G/L ratio is varied.

Claim 5 (withdrawn) The method of claim 1, wherein the aqueous liquid is water, the first gas is oxygen and the second gas is nitrogen, carbon dioxide, ammonia or a mixture thereof.

Claim 6 (withdrawn) The method of claim 5, wherein the second gas is nitrogen.

Claim 7 (withdrawn) The method of claim 1, wherein the gaseous phase is on the inside of the hollow fibre membrane, and the aqueous phase is on the outside of the membrane.

Claim 8 (withdrawn) The method of claim 1, wherein the mass transfer of the first gas from the gaseous phase into the aqueous phase occurs by absorption, and the mass transfer of the second gas from the aqueous phase into the gaseous phase occurs by stripping.

Claim 9 (currently amended) An apparatus for controlling the dissolved gas content of an aqueous liquid containing dissolved gas, comprising a microporous hydrophobic hollow fibre membrane, to provide at equilibrium a stable interface between an aqueous liquid phase containing dissolved gas on a first side of the membrane and a gaseous phase on an opposite side of the membrane, means providing aqueous liquid phase and gaseous phase flow paths on opposite sides of the membrane, means for supplying an aqueous liquid phase containing dissolved gas to the first side of the membrane, means for controlling the flow feed rate of the aqueous liquid phase, means for controlling the aqueous liquid phase inlet pressure, means for supplying a gaseous phase to the other side of the membrane, means for

~~controlling the gaseous phase inlet pressure~~ means for removing gaseous phase from the apparatus, ~~and means for removing aqueous phase from the apparatus,~~ wherein the aqueous phase and the gaseous phase pressures are controlled such that and differential pressure control means for controlling the inlet pressure of the gaseous phase, whereby the gaseous phase pressure is up to but not exceeding the aqueous phase pressure, such that and in operation the simultaneous mass transfer through the membrane of a first gas in the gaseous phase into the liquid phase and of a second gas dissolved in the aqueous liquid into the gaseous phase occurs, whereby so that the gas content of the first gas in the aqueous phase is increased, the gas content of the second gas in the gaseous phase is decreased and the total gas pressure (TG) of the aqueous phase is altered.

Claims 10 - 12 (cancelled)

Claim 13 (currently amended) The apparatus of claim 9, wherein the means for supplying the liquid phase is connected to the outside of the membrane, and the means for supplying the gaseous phase is connected to the inside of the membrane, whereby the gaseous phase is on the inside of the hollow fibre membrane, and the aqueous phase is on the outside of the membrane.

Claim 14 (cancelled)